REMARKS

Claims 1, 8-12, 15 and 18-25 are pending.

Claims 1, 8-12, 15 and 18-25 stand rejected.

Claims 1 and 12 have been amended. Support for these amendments can be found throughout the specification and drawings, as originally filed.

This response is submitted in response to a Final Office Action and is deemed to place the application in a condition for allowance, or alternatively, in better condition for appeal.

STATEMENT OF THE SUBSTANCE OF THE INTERVIEW

The Applicants wish to express their appreciation to the Examiner for the courtesies extended to the Applicants' attorney, Preston Smirman, during a telephonic interview held on February 27, 2007. Specifically, claim 1 was discussed in view of the 35 U.S.C. §112, first paragraph, rejection. The Examiner maintained the position that the recitation of the term "unblended" in connection with the C-PVC was not supported by the specification.

35 USC §112 FIRST PARAGRAPH REJECTION

Claims 1, 8-12, 15 and 18-25 stand rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement in that the claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventions, at the time the application was filed, had possession of the claimed invention.

The Applicants respectfully traverse the 35 U.S.C. §112, first paragraph, rejection of claims 1, 8-12, 15 and 18-25.

In the interests of expediting prosecution of the instant application, and without admission that any amendment is required, the Applicants have amended claims 1 and 12 to remove the term "unblended" therefrom.

Accordingly, the Applicants contend that the 35 U.S.C. 112, first paragraph, rejection of claims 1, 8-12, 15 and 18-25 has been overcome.

35 USC §103(a) REJECTION

Claims 1, 8-12, 15 and 18-25 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,252,413 to Alamgir et al. in view of U.S. Patent No. 5,389,463 to Chang et al., and/or in view of U.S. Patent No. 6,617,078 to Chia et al.

The Applicants respectfully traverse the 35 U.S.C. §103(a) rejection of claims 1, 8-12, 15 and 18-25.

The standard for obviousness is that there must be some suggestion, either in the reference or in the relevant art, of how to modify what is disclosed to arrive at the claimed invention. In addition, "[s]omething in the prior art as a whole must suggest the desirability and, thus, the obviousness, of making" the modification to the art suggested by the Examiner. *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 1051, 5 U.S.P.Q.2d (BNA) 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988). Although the Examiner may suggest the teachings of a primary reference could be modified to arrive at the claimed subject matter, the modification is not obvious unless the prior art also suggests the desirability of such modification. *In re Laskowski*, 871 F.2d 115, 117,

10 U.S.P.Q.2d (BNA) 1397, 1398 (Fed. Cir.1989). There must be a teaching in the prior art for the proposed combination or modification to be proper. *In re Newell*, 891 F.2d 899, 13 U.S.P.Q.2d (BNA) 1248 (Fed. Cir. 1989). If the prior art fails to provide this necessary teaching, suggestion, or incentive supporting the Examiner's suggested modification, the rejection based upon this suggested modification is error and must be reversed. *In re Bond*, 910 F.2d 831, 15 U.S.P.Q.2d (BNA) 1566 (Fed. Cir. 1990).

The law is also clear that a claim in dependent form shall be construed to incorporate all the limitations of the claim to which it refers. 35 U.S.C. 112, fourth paragraph.

In the interests of expediting prosecution of the instant application, and without admission that any amendment is required, the Applicants have amended claim 1 to recite, among other things, a polymer electrolyte comprising: (1) a modified chlorine containing polymer having an enhanced chlorine level relative to a chlorine content of an unmodified chlorine containing polymer formed from polymerization of its monomer; (2) a salt of an alkali metal; and (3) an aprotic solvent, wherein said polymer electrolyte is a solid polymer electrolyte comprising said salt and said aprotic solvent integrated with said modified chlorine containing polymer, wherein said polymer electrolyte is formed by combining said modified chlorine containing polymer, said salt, and said aprotic solvent together in a common volatile solvent to form a substantially homogeneous solution, casting said solution on a support, and allowing said casted solution to dry off said common volatile solvent so as to form said polymer electrolyte, wherein said modified chlorine containing polymer comprises C-PVC, said C-PVC having 60-75 wt % chlorine, wherein said polymer electrolyte comprises 10-40 wt % of said C-PVC.

In the interests of expediting prosecution of the instant application, and without admission that any amendment is required, the Applicants have amended claim 12 to recite, among other things, a rechargeable battery, comprising: (1) an anode containing an alkali metal; (2) a cathode; and (3) a polymer electrolyte comprising a modified chlorine containing polymer having an enhanced chlorine level relative to a chlorine content of an unmodified chlorine containing polymer formed from polymerization of its monomer, a salt of an alkali metal, and an aprotic solvent, wherein said polymer electrolyte is a solid polymer electrolyte comprising said salt and said aprotic solvent integrated with said modified chlorine containing polymer, wherein said polymer electrolyte is formed by combining said modified chlorine containing polymer, said salt, and said aprotic solvent together in a common volatile solvent to form a substantially homogeneous solution, casting said solution on a support, and allowing said casted solution to dry off said common volatile solvent so as to form said polymer electrolyte, wherein said modified chlorine containing polymer comprises C-PVC, said C-PVC having 60-75 wt % chlorine, wherein said polymer electrolyte comprises 10-40 wt % of said C-PVC.

Neither Alamgir et al., Chang et al., and/or Chia et al., either alone or in combination therewith, suggests the invention as claimed in independent claims 1 and/or 12 or the claims dependent therefrom.

The Examiner correctly noted that Alamgir et al. is silent with respect to the solid organic polymer matrix (separator) of the solid polymer electrolyte containing chlorinated PVC or a chlorinated PVC having 60-75 wt% chlorine.

The recitation of Chang et al. or Chia et al. does not cure the deficiencies in the

teachings of Alamgir et al.

Initially, there is no motivation or suggestion that substituting chlorinated PVC into the ***non-chlorinated*** formulations taught by Alamgir et al. would even be functional, let alone desirable. Additionally, as the Examiner noted, Chang et al. discloses that the chlorine present in the polymer is at least in the amount of 55 percent, and, as the Examiner noted, greater than 65 percent being preferred. Furthermore, as the Examiner noted, Chia et al. discloses that the bound chlorine present in the polymer is at least in the amount of 57 percent. Thus, both Chang et al. and Chia et al. teach polymers containing extremely high levels of chlorine, whereas, as the Examiner has acknowledged, Alamgir et al. is completely silent on the subject of using chlorinated PVC, despite the fact that conventional PVC is clearly disclosed.

Also, neither Chang et al. or Chia et al. disclose that the polymer electrolyte is formed by combining said modified chlorine containing polymer, the salt, and the aprotic solvent together in a common volatile solvent to form a substantially homogeneous solution, casting the solution on a support, and allowing the casted solution to dry off the common volatile solvent so as to form the polymer electrolyte. In fact, these references teach the exact opposite formation process. For example, Chia et al. teaches that a microporous film separator is formed by mixing chlorinated PVC and a terpolymer of vinylidene chloride, wherein the separator includes a plurality of pores formed therein. The separator is then subsequently impregnated with a 1M solution of $LiPF_6$ in ethylene carbonate and dimethyl carbonate-based electrolytes, wherein the electrolytes fill the pores of the separator. Likewise, Chang et al. teaches a microporous sheet having first and second major faces and a thickness of less than 50 mils. The sheet is formed from a

uniform mixture of a halogenated polyolefin polymer and a filler or a halogenated polyolefin polymer and a surfactant/filler agent. A fibrous sheet is subsequently embedded within the mixture and between the first and second major surfaces. Thus, both Chia et al. and Chang et al. disclose the formation of a sheet or film that includes a plurality of pores, into which the electrolytes are introduced. Neither of these methodologies is compatible with either the claimed invention or the teachings of Alamgir et al. Thus, both Chia et al. and Chang et al. teach away from the claimed invention, as well as the primary reference, Alamgir et al.

Thus, one of ordinary skill in the art would not look to Alamgir et al., Chang et al., and/or Chia et al., either alone or in combination therewith, for guidance on making a polymer electrolyte and/or rechargeable battery, as presently claimed.

Because claim 1 is allowable over Alamgir et al., Chang et al., and/or Chia et al., either alone or in combination therewith, for at least the reasons stated above, claims 8-11, which depend from and further define claim 1, are likewise allowable. Because claim 12 is allowable over Alamgir et al., Chang et al., and/or Chia et al., either alone or in combination therewith, for at least the reasons stated above, claims 15 and 18-25, which depend from and further define claim 12, are likewise allowable.

Accordingly, the Applicants contend that the 35 U.S.C. 103(a) rejection of claims 1, 8-12, 15 and 18-25 has been overcome.

CONCLUSION

In view of the foregoing, the Applicants respectfully request reconsideration and reexamination of the Application. The Applicants respectfully submit that each item

raised by Examiner in the Final Office Action mailed December 18, 2006 has been successfully traversed, overcome or rendered moot by this response. The Applicants respectfully submit that each of the claims in this Application is in condition for allowance and such allowance is earnestly solicited.

The Examiner is invited to telephone the Applicants' undersigned attorney at (248) 723-0400 if any unresolved matters remain.

Any needed extension of time is hereby requested with the filing of this document.

The Commissioner is authorized to charge any additional fees or credit any overpayment to Deposit Account No. 08-2789.

Respectfully submitted,

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